

MIL-B-46506D  
 30 August 1984  
 SUPERSEDING  
 MIL-B-0046506C (AR)  
 16 August 1977  
 MIL-B-46506A  
 20 December 1962

## MILITARY SPECIFICATION

### BOXES, AMMUNITION PACKING WOOD, WIREBOUND

This specification is approved for use by all Departments and Agencies of the Department of Defense.

#### 1. SCOPE

1.1 Scope. This specification covers two types and six classes of wirebound box designs intended for ammunition use (see 6.1). All boxes have looped closures, and are top opening. Boxes may or may not have handles made from rope or webbing. Ends may be one piece plywood.

1.2 Classification. The basic box design and modifications thereof shall be of the following types, classes and grades:

- |                              |   |
|------------------------------|---|
| Type 1                       | Without handles   |
| Class 1                      | With plywood ends. Fig. 3   |
| Class 2                      | With batten ends. Fig. 4  |
| Type II                      | With two handles, Rope or Webbing.  |
| Class 1                      | With regular cleats, Rope Handles, Fig. 5                                   |
| Class 2                      | With regular cleats, 3/8" plywood ends, Webbing Handles, Fig. 6             |
| Class 3                      | With wide cleats, 1/2" plywood ends, Webbing Handles, Fig. 7                |
| Class 4                      | With wide cleats, 1/2" plywood ends, Webbing Handles and end batten. Fig. 8 |
| Grade A - Treated (see 3.10) |   |
| Grade B - Untreated          |   |

FSC 8140

Beneficial comments (recommendations, additions, deletions) and any pertinent data which may be of use in improving this document should be addressed to: Commander, US Army Armament Research and Development Center, Attn. DRSMC-QA, Dover, New Jersey 07801 by using the self-addressed Standardization Document Improvement Proposal (DD Form 1426) appearing at the end of this document or by letter.

## MIL-B-46506D

## 2. APPLICABLE DOCUMENTS

2.1 Government documents.

2.1.1 Specifications and standards. Unless otherwise specified (see 6.2), the following specifications and standards of the issue listed in that issue of the Department of Defense Index of Specifications and Standards (DoDISS) specified in the solicitation, form a part of the specification to the extent specified herein.

## SPECIFICATIONS

## FEDERAL

FF-N-105	- Nails, Wire; and Staples
NN-P-530	- Plywood, Flat Panel
T-R-592	- Rope, Jute

## MILITARY

MIL-A-2550	- Ammunition, General Specification for
MIL-W-17337	- Webbing, Textile, Woven, Nylon

## STANDARDS

## MILITARY

MIL-STD-105	- Sampling Procedures and Tables for Inspection by Attributes
MIL-STD-109	- Quality Assurance Terms and Definitions
MIL-STD-129	- Marking for Shipment and Storage
MIL-STD-1235	- Sampling and Multilevel Continuous Sampling Procedures and Tables for Inspection by Attributes

(Copies of drawings, specifications, handbooks, standards and publications required by manufacturers in connection with specific acquisition functions should be obtained from the contracting activity or as directed by the contracting officer).

2.2 Other publications. The following documents form a part of this specification to the extent specified herein. Unless otherwise indicated, the issue in effect on date of invitation for bid or request for proposal shall apply.

## MIL-B-46506D

2.2 Other publications. The following documents form a part of this specification to the extent specified herein. Unless otherwise indicated, the issue in effect on date of invitation for bid or request for proposal shall apply.

## AMERICAN SOCIETY FOR TESTING AND MATERIALS

ASTM-D2016 - Moisture Content of Wood, Standard Test Methods for

ASTM-D4268 - Testing Fiber Ropes, Standard Methods for

(Application for copies shall be addressed to the American Society for Testing and Materials, 1916 Race Street, Philadelphia, PA 19103).

2.3 Order of precedence. In the event of a conflict between the text of this specification and the references cited herein, the text of this specification shall take precedence.

## 3. REQUIREMENTS

3.1 Material. The materials, parts, and assemblies shall be in accordance with applicable drawings and specifications.

3.1.1 Wood species. The species of wood acceptable under this specification are classified in groups as follows:

## GROUP I

Basswood	Pine, jack
Cottonwood	Pine, lodgepole
Cypress	Pine, ponderosa (Western Yellow)
Fir, noble	Pine, red (Norway)
Magnolia	Pine, sugar
Spruce	Pine, white
Poplar, yellow	Willow

## GROUP II

Douglas fir	Larch, Western
Hemlock	Pine, Southern Yellow
	Tamarack

## GROUP III

Ash, black	Maple, soft
Ash, pumpkin	Sycamore
Elm, soft	Tupelo, water
Gum, red or black	

## MIL-B-46506D

## GROUP IV

Ash, white  
 Beech  
 Birch  
 Elm, hard  
 Hackberry

Hickory  
 Maple, hard  
 Oak  
 Pecan  
 Locust

3.1.2 Moisture content. The moisture content of the lumber after seasoning shall not be greater than 18 percent nor less than 9 percent of its oven dry weight when tested as specified in 4.5.2. Moisture content determination for plywood is not required.

3.1.3 Finish. Lumber shall be cut to length and edges shall be straight and square with the surface of the lumber. Faceboards shall be surfaced on one side and may be resawn on the other side; the resawn surface shall face to the inside of the container. Face boards may be resawn on both surfaces provided the resawn surfaces do not interfere with marking.

3.1.4 Season checks. Season checks occurring in the central portion of a piece of the finished container shall be permitted provided they do not extend through the thickness of the piece in which they occur. Season checks which extend through the thickness of the piece shall be considered as splits (see 3.1.5) except that when adjacent to a knot they will be considered a component part of an incased knot defect. Season checks less than one-third the length of the board occurring at the end of the board shall not be considered cause for rejection.

### 3.1.5 Splits.

3.1.5.1 Splits extending entire length of piece. Splits, extending the entire length of the board shall be permitted for sides, top, bottom and ends, provided the width of the narrowest piece of the board measured from the split is 1-1/2 inches or greater, and further provided that a staple holds each end of each piece in place.

3.1.5.2 Splits diverging to edge of piece. Splits diverging to outer edge of box shall not be permitted. Splits extending less than the entire length of the board and not diverging to an edge of a board shall be permitted for sides, top, bottom and ends, provided that if the split were extended, the resulting boards would comply with the minimum requirements of 3.1.5.1.

3.1.5.3 Splits extending through staple or nail holes. Splits in the end of boards caused by the fastener which do not exceed 3 inches in length are acceptable provided the split does not terminate in the edge of the board.

## MIL-B-46506D

### 3.1.6 Knots and knotholes.

3.1.6.1 Knots. In faceboards, sound tight knots or clusters of knots shall be permitted provided the overall dimension as measured across grain shall not exceed 1-1/2 inches nor exceed 1/3 the width of the board.

3.1.6.2 Knots in cleats and battens. Sound knots shall be permitted providing the cross-sectional area of the knot shall not exceed one-fourth the cross-sectional area of the piece. The distance between knots shall be greater than 6 inches. No part of any knot shall be closer to an end of the cleats or batten than 1-1/4 inches.

3.1.6.3 Knotholes in faceboards. Knotholes, loose knots, or worm holes larger than 5/8 inch across the largest dimension shall be cause for rejection. Individual knotholes, loose knots or worm holes, ranging in size to 5/8 inch in diameter across the largest dimension shall be permitted in faceboards provided they are spaced not less than 6 inches apart. Small holes less than 1/16 inch in diameter shall be permitted in any piece provided no concentration of such holes exceeds five in any square inch.

3.1.6.4 Knotholes in cleats or battens. Knotholes or loose knots shall not be permitted within 1 inch from either end of a cleat or batten. The diameter of loose knots or knot holes shall not exceed one-fourth the width or depth of a cleat or batten.

3.1.7 Other defects. At least one surface of faceboard, i.e., the surface to be placed on the outside of the container, shall be sufficiently smooth and free of stain to permit legible marking.

3.1.7.1 Wane. Wane shall not exceed 1/2 inch in width on the surface on which it appears nor one-sixth the length or one-half the thickness. Evidence of decay in which the disintegration is readily recognizable shall be cause for rejection (see 6.3).

3.1.7.2 Divergency of grain. The divergency of grain in faceboards, cleats, or battens shall not exceed one inch in 8 inches of length.

3.1.8 Faceboards. The thickness of resawn lumber used for faceboards or end boards shall be 3/8 inch thick with a tolerance of plus or minus 1/16 inch.

3.1.8.1 Width of faceboards. The minimum width of any board at the lead or trailing edge of any box blank shall be 3-1/2 inches. Boards used as sides for all boxes 5-1/2 inches or less in depth shall be one piece, otherwise the minimum width of any board used in the sides, top, bottom or end of a box shall be 2-1/2 inches.

## MIL-B-46506D

3.1.8.2 Alternative faceboards. The use of 3/8 inch thick plywood, 3 ply minimum, is permissible for faceboards at the manufacturer's option. Plywood shall conform to Group B, NN-P-530, Grade C-D with exterior glue Identification index 24/0. The C face shall be outside. The grain of the face shall be parallel with the length of the board required. See 3.8 for plywood ends.

3.1.9 Thickness and width of cleats and battens.

3.1.9.1 Cleats. All cleats shall be mitered. Cleats for Type I, Class 1 and 2 and Type II, Class 1 and 2 boxes shall be made from Group II, III, or IV woods only. Cleats for Type II, Class 3 and 4 boxes shall be made for Group III and IV woods only. The thickness and width of cleats shall be as shown in the applicable figure. A tolerance of plus or minus 1/16 of an inch shall apply to the width and thickness of cleats.

3.1.9.2 Battens. Battens for ends may be made from any group wood. The thickness and width of battens shall be as shown in the applicable figures. A tolerance of plus or minus 1/16 of an inch shall apply to thickness of battens and a tolerance of plus or minus 1/8 of an inch to the width of battens. For Type II boxes, specifying rope handles, end battens shall be routed for attachment of rope handles as shown in figure 1.

3.2 Binding wires. Binding wires shall be medium temper low carbon annealed steel wire. Wire used shall have such physical properties as to permit satisfactory manufacture of loops without fracturing the wire. The tensile strength shall be from 60,000 to 85,000 pounds per square inch. Splicing or welding of a binding wire during manufacture is permitted.

3.2.1 Coating. The surface of the wire shall have a regular galvanized coating. The coating shall be smooth and shall not flake or peel where the wire is bent or twisted.

3.2.2 Diameter of wire. The diameter of all binding wire shall be  $.092 \pm .003$  inches (13 Gage).

3.2.3 Wire spacing. When possible, the centerline of loop closures shall be spaced equidistant across the outside length of the box.

3.2.4 Number of wires. Unless otherwise specified on the applicable drawing, the number of wires used shall be as specified in Table I.

## MIL-B-46506D

TABLE I

Inside length box, in.	Up to 9 13/16	9 7/8 to 14	14 1/16 to 27 5/8	27 11/16 to 36	36 1/16 to 42 5/8	42 11/16 to 50	50 1/16 to 72
No. of wires	2	3	4	5	6	7	8

3.2.5 Loop closures. Loop closures shall be either the looped wire closure or twisted wire closure illustrated in figure 9. The loop, both side and top, shall project beyond the edges of the faceboard a minimum of one inch. Top loops shall fit over the side loops. Loops shall be produced which will provide a tight secure closure when closed by machinery or manually as illustrated in figure 9. (See 6.4).

3.3 Staples. Staples shall be made from hard temper low carbon steel wire and shall have a regular galvanized coating. The tensile strength of stapling wire shall be from 95,000 to 125,000 pounds per square inch. Galvanized coating shall be as specified in 3.2.1.

3.3.1 Staples sizes. The staples shall be as specified in Table II. Staples in ends shall be 1-3/8 inches, 14 gage when rope handles are specified. Staples in ends without rope handles shall be 1-1/4 inch, 16 gage.

TABLE II

Thickness of boards or combined thickness of boards, cleats or battens in inches	Length and Gage of Staples			
	In boards only		In boards, over wire	
	Length, inches	Gage	Length, inches	Gage
3/8	1/2	18	9/16	18
3/4 (2 ply 3/8)	7/8	18	1	18
1-1/8 to 1-3/8	1-1/4	16 (1)	1-1/4	16 (1)

(1) 1-1/8 -- 16 gage permissible into Group IV wood cleats.

3.3.2 Staple spacing. Staples shall be driven at a spacing not to exceed 1-3/4 inches. When the length of the cleats requires interruption of the nominal spacing, this interrupted space shall

## MIL-B-46506D

not exceed 2-1/2 inches. The minimum number of staples in any cleat shall be three. At each corner of the box, the distance from the end of the cleat to the nearest staple shall not exceed 1-5/8 inches. Staples in ends shall be driven at a spacing not to exceed 1-3/4 inches and two staples through ropes as shown in figure 1.

3.4 Nails. Nails shall be cement coated or chemically etched cooler, sinker or box type complying with FF-N-105. Uncoated nails may be used in nailing end boards to battens when the nails pass through the boards and battens and are clinched.

3.5 Rope handles. Rope handles shall be made from jute, polyethylene or polypropylene rope as stated below, unless otherwise specified.

3.5.1 Rope handles from 13/16 inch thick batten boxes. Rope handles attached to 13/16 inch thick battens shall be manufactured of 1/2 inch diameter type I or type II, class 2 jute rope complying with T-R-592. Length of rope handle shall be determined in figure 1A.

3.5.2 Rope handles for 1-1/8 inch thick batten boxes. Rope handles attached to 1-1/8 inch thick battens shall be manufactured of 5/8 inch diameter jute rope. Other requirements shall be as specified in 3.5.1.

3.5.3 Load test for rope handle. The rope handle shall be capable of supporting a static load, equal to twice the load to which it will be subjected in actual use, when tested as specified in 4.5.1.

3.5.4 Polypropylene rope handles. Polypropylene rope for all handle applications shall meet the following requirements:

Rope Size.....	7/16 inch diameter
Color.....	Black
Yarn.....	Single ply (3 yarns/strand, min.)
Rope Weight.....	.033 lbs./foot max. (see 4.5.5)
Rope Lay.....	1.7 inches plus/minus 5 percent
Breaking Strength.....	2500 lbs. min. average (1) (see 4.5.6)

NOTE 1: Average 5 breaks.

3.5.5 Alternate rope handles. Polyethylene rope for all handle applications shall meet the following requirements:



## MIL-B-46506D

Rope Size.....7/16 inch diameter  
 Color.....Black  
 Yarn.....3 ply balance ply yarn  
 Rope Weight......042 lbs/foot, max. (see 4.5.5)  
 Rope Lay.....1.3 inches plus/minus 5 percent  
 Breaking Strength.....3000 lbs. min. average (1) (see 4.5.6)  
 Filament Size.....600 Denier

NOTE 1: Average of 5 breaks.

3.5.6 Webbing handles. Webbing handles for use with plywood ends shall be Nylon, Woven, Textile Webbing conforming to the requirements of MIL-W-17337C. Physical requirements of Table I apply. Width shall be one inch, and the color shall be black.

3.5.7 Load test for webbing handle. Requirements of 3.5.3 shall apply.

3.6 Box identification. Each box shall be marked on the bottom by the box manufacturer with the manufacturer's name and address, month and year of manufacture, and the drawing number, including the letter or number of the revision. Letters and figures shall not be less than 1/4 inch min. in height. Printed identification shall not be indented more than 1/16 inch below the surface of the wood. The letters "PA" shall be annotated on all boxes subjected to the PQ56 (copper-8-quinolinolate) preservative treatment in accordance with 3.10. The letters "PB" shall be annotated on all boxes subjected to the zinc hydronap ) zinc naphthenate emulsion) preservative treatment in accordance with 3.10. The letters shall not be less than one (1) inch in height and shall be separated from other markings.

### 3.7 Fabrication.

3.7.1 All parts of the box shall be cut square to size. The grain of wood on top, bottom and sides shall run lengthwise with the box. Grain of wood in end boards shall run parallel to the top and bottom cleats. Cleats shall be flush with the ends of the faceboards. Top and bottom boards shall completely cover the edges of the side boards with a tolerance of minus 1/8 inch on each side. The maximum allowable gap between faceboards due to mis-manufacture or shrinkage shall not exceed 1/4 inch.

3.7.2 Nails or staples not over wire shall be driven so that neither the head nor the point will project above the surface of the wood. Occasional overdriving of nails will be permitted but none shall be overdriven more than 1/8 the thickness of the piece. Clinched fasteners shall be flush or below the surface of the container. Fasteners shall be clinched in the thicker board.

## MIL-B-46506D

3.7.3 The end of the wires forming the loop closures shall be driven through the faceboard and tightly clinched against the inside surface of the faceboard.

3.8 End boards and end battens. The length of all end boards shall be the same as the inside width of the box specified. Resawn end boards extend  $3/8$  inch +  $1/16$  inch beyond the ends of the battens. When plywood only is used as the end the width of the plywood shall equal the depth of the box minus  $1/8$  inch. When  $3/8$  inch plywood is used or specified for ends it shall comply with the requirements of 3.1.8.2. When  $1/2$  inch plywood is specified for the ends, it shall conform to Group B, NN-P-530, Grade C-D with exterior glue, 32/16 identification index, 3 ply. The length of end battens shall equal the distance between top and bottom cleats with a minus  $1/8$  inch tolerance. End battens shall be positioned across the grain of the end boards located  $7/8$  plus  $1/16$  inch from each end of the end boards.

### 3.9 Nailing.

3.9.1 Size and spacing of nails. The size of nails when used for fastening end boards to end battens shall be 4 penny, 1- $3/8$  inch long driven at an average spacing of 1- $1/2$  inches. Staples used to fasten end boards to end battens shall comply with 3.3.1.

3.9.2 Rope handle. For attachment of rope handles, see figure 1. Deviation from the nail or staple pattern shall be cause for rejection.

3.10 Preservative treatment. Grade A boxes, or the finished wood parts thereof, shall be completely immersed for a minimum of one minute in wood preservative PQ56 reduced with water down to 1.8 percent copper-8-quinolinolate as solution (see 6.7) or M-GARD W550 (zinc naphthenate) reduced with water down to 3 percent zinc as metal (see 6.8). Alternatively, Grade A boxes or the finished wood parts thereof shall be completely flooded for a minimum of one minute in PQ56 solution or M-GARD W550 emulsion as to inundate all interior and exterior wood surfaces (when finished wood parts are dipped). Care shall be exercised to assure complete coverage of all surfaces of the board. After the dip treatment, the boxes must be air dried (or dried for an appropriate time in a kiln or oven) for a period of 24 hours minimum in a well ventilated area allowing full air circulation around all surfaces of the wood box. The boxes must be dried prior to shipment.

The box manufacturer will be required to obtain and provide all available safety, health and environmental data i.e., EPA Hazard Data Sheets, OSHA Safety Data Sheets etc. Of specific interest are the acute, subchronic and chronic toxicity data. Also, the manufacturer will obtain and provide any special safety, health and environmental information (apparatus and procedures) to be used throughout the treated box duty life and disposal.

## MIL-B-46506D

3.10.1 Presence of PQ56 (copper-8-quinolinolate) preservative. When treated with PQ56, the box shall show evidence of discoloration when tested as specified in 4.5.3.

3.10.2 Presence of M-GARD W550 (zinc naphthenate emulsifiable) preservative. When treated with M-GARD W550, the box shall show evidence of discoloration when tested as specified in 4.5.4.

3.11 Box assembly inside dimensions. Inside dimensions shall be specified to nearest 1/16 inch and shall have a tolerance of plus 1/8 inch. Compliance with inside dimensions specified on drawings or in contracts or orders shall be determined on the box assembled as shown in figure 8 (see 6.5).

3.12 First article inspection. This specification contains provisions for first article inspection. Requirements for the submission of first article samples by the contractor shall be specified in the contract.

3.13 Workmanship. Boxes shall be free from imperfections which may affect their utility. Boxes, when set up, shall be square with well fitted corners and joints. Wires shall be uniformly applied and properly tightened so that there is no buckling and bulging and so that the closed box is tightly bound. The box shall be free of exposed splinters, metal projections or sharp edges which may cause injury when manually handled.

#### 4. QUALITY ASSURANCE PROVISIONS

4.1 Responsibility for inspection. Unless otherwise specified in the contract or purchase order, the contractor is responsible for the performance of all inspection requirements as specified herein. Except as otherwise specified in the contract or purchase order, the contractor may use his own or any other facilities suitable for the performance of the inspection requirements specified herein, unless disapproved by the Government. The Government reserves the right to perform any of the inspections set forth in the specification where such inspections are deemed necessary to assure supplies and services conform to prescribed requirements. Reference shall be made to MIL-STD-109 in order to define terms used herein. The provisions of MIL-A-2550 shall apply.

4.1.1 Certification. The contractor shall certify that the preservative treatment is in full conformance to the requirements of 3.10.

4.2 Classification of inspections. The inspection requirements specified herein are classified as follows:

- a. First article inspection (see 4.3).
- b. Quality conformance inspection (see 4.4).

## MIL-B-46506D

#### 4.3 First article inspection.

4.3.1 Submission. The contractor shall submit a first article sample as designated by the contracting officer for evaluation in accordance with the provisions of 4.3.2. The first article sample shall consist of five (5) consecutively produced boxes of one grade, type and style which have been produced by the contractor using the same production processes, procedures and equipment as will be used in fulfilling the contract. When polyethylene or polypropylene rope is used, a continuous length of rope sufficient to perform the tests specified herein shall also be furnished. All materials shall be obtained from the same sources of supply as will be used in regular production.

4.3.2 Inspections to be performed. Samples may be subjected by the Government to any or all of the examinations and tests specified in this specification and to any or all requirements of the applicable drawings.

4.3.3 Rejection. If any box assembly or polyethylene or polypropylene rope sample (if pertinent) fail to comply with any of the applicable requirements, the first article sample shall be rejected. The Government reserves the right to terminate its inspection upon any failure of the sample to comply with any of the stated requirements.

#### 4.4 Quality conformance inspection.

4.4.1 Inspection lot formation. The term "inspection lot" is defined as a homogeneous collection of units of product from which a representative sample is drawn or which is inspected 100 percent to determine conformance with applicable requirements. Units of product selected for inspection shall represent only the inspection lot from which drawn and shall not be construed to represent any prior or subsequent quantities presented for inspection. Homogeneity shall be considered to exist provided the inspection lot has been produced by one manufacturer in one unchanged process, using the same materials and methods, in accordance with the same drawings, same drawing revisions, same specifications and same specification revisions and complies with the provisions for submission of product as specified in MIL-STD-105. All material submitted for inspection in accordance with this specification shall comply with the homogeneity criteria specified herein, regardless of the type of inspection procedure which is being applied to determine conformance with requirements.

4.4.2 Examination. Unless otherwise specified in the Classification of Defects and Test Tables, sampling plans and procedures for major and minor defects shall be in accordance with MIL-STD-105, Inspection Level II, except that continuous plans in accordance with MIL-STD-1235 may be used if approved by the procuring activity.

## QUALITY CONFORMANCE INSPECTION

## CLASSIFICATION OF DEFECTS &amp; TESTS

MIL-B-46506D

PARAGRAPH	TITLE	SHEET 1 of 3		DRAWING NUMBER	
4.4.2.1	Assembly			See applicable drawing	
				NEXT HIGHER ASSEMBLY	
CATEGORY	EXAMINATION OR TEST	NO. OF SAMPLE UNITS	AQL OR 100%	REQUIREMENT PARAGRAPH	PARAGRAPH REFERENCE /INSPECTION METHOD
Critical	None defined				
Major					Standard Measuring Equipment (SME)
101	Inside length, minimum (min.)		0.40%	3.11	SME
102	Inside width, min.		0.40%	3.11	SME
103	Inside depth, min.		0.40%	3.11	SME
104	Decay exceeding 1/3 length or affecting serviceability of board cleat or batten		0.40%	3.1.7.1	Test (see 6.3.1)
105	Hazardous splinters or sharp edges projecting		0.40%	3.13	Visual
106	Bulged or buckled wires		0.40%	3.13	Visual
107	Wood species not conforming to specification		0.40%	3.1.1	Visual
108	Board broken cross grain affecting utility of box		0.40%	3.1.5	Visual
109	Split full length in cleat or batten		0.40%	3.1.5	Visual
110	Split forming sliver at edge of board		0.65%	3.1.5	Visual
111	Top and bottom overlap not less than 1/4 inch		0.40%	3.7.1	SME
112	Binding wires broken or missing		0.40%	3.2	Visual
113	Prong of binding wires not driven into wood		0.40%	3.7.3	Visual
114	End of wire not clinched		0.40%	3.7.3	Visual
115	Improper staple size over outer and intermediate wires		0.40%	3.3.1	SME
116	Broken staples, four or more per outer wire		0.40%	3.3	Visual
NOTES					

DRSMC-DA (D) Form 160, 1 Aug 83 replaces edition of 1 Jul 77 which may be used until exhausted.

## QUALITY CONFORMANCE INSPECTION

## CLASSIFICATION OF DEFECTS &amp; TESTS

MIL-B-46506D

PARAGRAPH	TITLE	EXAMINATION OR TEST	NO. OF SAMPLE UNITS	SHEET 2 OF 3		DRAWING NUMBER	
				AQL OR 100%	REQUIREMENT PARAGRAPH	See applicable drawing	NEXT HIGHER ASSEMBLY
CATEGORY						PARAGRAPH REFERENCE / INSPECTION METHOD	
4.4.2.1	Assembly (Continuation)			0.40%	3.4	Visual	
117	Protruding nails or staple points			0.40%	3.2.1	Visual	
118	Wire or staples not galvanized			0.40%	3.2.5	Visual/Manual	
119	Short loop (preventing closing of box			0.40%	3.2.1	Visual/Manual	
120	Flaking or peeling of galvanized coating			0.40%			
121	Evidence of poor workmanship, other than hazardous splinters sharp edges protruding or bulged or buckled wires			0.40%	3.13	Visual	
Minor							
201	Inside length, maximum (max.)			1.0%	3.11	SME	
202	Inside width, max.			1.0%	3.11	SME	
203	Inside depth, max.			1.0%	3.11	SME	
204	Thickness of wood			0.65%	3.1.8.1	SME	
205	Width of cleats			1.0%	3.1.9.1	SME	
206	Wane on surface of board excessive			1.0%	3.1.7.1	SME	
207	Sound knot or cluster of knots larger than 1/3 width of board			0.65%	3.1.6	SME	
208	Sound knot larger than 1/4 width of cleat			0.65%	3.1.6	SME	
209	Loose knot or knot hole larger than 5/8 inch in diameter in faceboards			0.65%	3.1.6	SME	
210	Knots closer than 1-1/4 inch from end of cleat or batten			0.65%	3.1.6	SME	
211	Diameter of loose knot or knot holes exceeding 1/4 width or depth of cleat or batten			0.65%	3.1.6	SME	
NOTES							

DPSMC-0A (D) Form 160, 1 Aug 83 replaces edition of 1 Jul 77 which may be used until exhausted.



## QUALITY CONFORMANCE INSPECTION

MIL-B-46506D

## CLASSIFICATION OF DEFECTS &amp; TESTS

PARAGRAPH	TITLE	EXAMINATION OR TEST	NO. OF SAMPLE UNITS	SHEET		DRAWING NUMBER
				3 OF	3	
4.4.2.1	Assembly (Continuation)					See applicable drawing NEXT HIGHER ASSEMBLY
CATEGORY				AQL OR 100%	REQUIREMENT PARAGRAPH	PARAGRAPH REFERENCE / INSPECTION METHOD
212	Divergence of grain exceeding 1 inch in 8 inches of length Opening between face board greater than 1/4 inch Cleat extending beyond faceboard surface Handle missing, not properly located or of improper pattern Marking misleading or unidentifiable Wire not galvanized Broken staples, four or more per intermediate wire Nail or staple missing Nail or stapling pattern not as required Diameter of wire Split full length (more than one for board 4 inches wide or less, or more than two for board greater than 4 inches wide) Partial splits (less than 1/3 length of board not more than 3 in a board) Overall width of faceboard, as applicable			0.65%	3.1.7.2	SME
213				0.65%	3.7.1	Visual
214				1.0%	3.7.1	Visual
215				0.65%	3.9.2	Visual
216				0.65%	3.6	Visual
217				0.65%	3.2.1	Visual
218				0.65%	3.3	Visual
219				0.65%	3.4	Visual
220				0.65%	3.4	Visual
221				0.65%	3.2.2	Visual/SME
222				0.65%		
223				0.65%	3.1.5	Visual/SME
224				0.65%	3.1.5	Visual/SME
				0.65%	3.1	SME
NOTES						

DRSMC-0A (D) Form 160, 1 Aug 83 replaces edition of 1 Jul 77 which may be used until exhausted.

## MIL-B-46506D

4.4.3 Testing.

4.4.3.1 Load test of handles, rope or webbing (see 3.5.3 and 3.5.7), Major defect. A sample of 15 boxes shall be selected at random from each lot and subjected to this test as specified in 4.5.1. If any box fails to comply with the requirement, it shall be classed defective and the lot shall be rejected.

4.4.3.2 Determination of moisture content (see 3.1.2). Major defect. The sampling plan for this test shall be in accordance with MIL-STD-105, doubling sampling plan, with an AQL of 2.5 percent. The test shall be performed as specified in 4.5.2.

4.4.3.3 Presence of PQ56 (copper-8-quinolinolate) preservative (see 3.10), Major defect. A sample of 15 boxes shall be selected at random for this test. Four individual boards (cleat, faceboard, endboard and batten) of each box shall be subjected to the test specified in 4.5.3. If one or more boards fail to meet the applicable requirement, additional boards, from that box, shall be tested. The box will be considered acceptable when a total of four individual boards (including at least one end cleat) meet the applicable requirements. Failure of any box to comply with the requirements shall be cause for rejection of the lot.

4.4.3.4 Presence of zinc hydronap (zinc naphthenate emulsion) preservative (see 3.10), Major defect. A sample of 15 boxes shall be selected at random for this test. Four individual boards (cleat, faceboard, endboard and batten) of each box shall be subjected to the test specified in 4.5.4. If one or more boards fail to meet the applicable requirements, additional boards from that box, shall be tested. The box will be considered acceptable when the total of four individual boards (including at least one end cleat) meet the applicable requirements. Failure of any box to comply with the requirements shall be cause for rejection of the lot.

4.4.3.5 Rope weight (see 3.5) First article inspection only (see 4.3). This test is applicable when polyethylene or polypropylene rope handles are supplied. A 12 yard sample of polyethylene or polypropylene rope shall be furnished. If the rope fails to comply with the requirements of 3.5, when subjected to the test of 4.5.5, the first article lot shall not be approve.

4.4.3.6 Rope breaking strength (see 3.5) First article inspection only (see 4.3). This test is applicable when polyethylene or polypropylene rope handles are to be supplied. A 75 foot sample of polyethylene or polypropylene rope shall be supplied cut into five pieces approximately equal in length. If the average breaking strength does not comply with the requirement of 3.5, when subjected to the test of 4.5.1, the first article sample shall not be approved.



MIL-B-46506D

4.4.4 Inspection equipment. The government reserves the right to inspect the contractor's equipment and determine that he has available and utilizes correctly, measuring and test equipment of the required accuracy and precision and that the instruments are of the proper type and range to make measurements of the required accuracy. Commercial inspection equipment shall be employed where applicable for all tests and examinations specified in 4.4.2 and 4.5. The contractor is responsible for assuring that proper calibration procedures are followed. Government approval of all inspection equipment is required prior to its use for acceptance purposes (see 6.9).

4.5 Methods of inspection (see 6.10).

4.5.1 Load test of rope handle. The box shall be packed with any suitable material until its gross weight is twice as great as its gross weight when packed with the item for which it was intended (see 6.1). The box shall then be suspended freely for one minute, minimum, from each rope handle in turn. In the event that one handle fails the requirement, the box shall be classed defective.

4.5.2 Determination of moisture content. The box shall be tested in accordance with ASTM-D2016, except that two readings shall be taken from different panels of the box. Failure of the average of the two readings to meet the requirement shall class the box defective.

4.5.3 Presence of PQ56 (copper-8-quinolinolate) preservative.

4.5.3.1 Primary method.

4.5.3.1.1 Materials and equipment. The materials and equipment required are as follows:

a. PQ Check (indicator): The formulation contains 10 parts by weight of sodium diethyldithiocarbamate trihydrate (see 6.11) and 90 parts by weight of distilled water.

b. Dropper: An ordinary glass tube eye dropper may be used.

4.5.3.1.2 Test procedures. Two drops of PQ Check (indicator) shall be applied to the wood surface. An immediate dark brown coloration and the spreading of the drops shall indicate PQ56 treatment.

4.5.3.2 Alternate method.

4.5.3.2.1 Materials and equipment. The material and equipment required are as follows:

## MIL-B-46506D

a. Reagent. Dissolve 0.5 grams chrome azurol S concentrate (see 6.12) and 5.0 grams sodium acetate in 80 ml of distilled water and then dilute further to 500 ml total with distilled water.

b. Sprayer. A common manual (fly) sprayer type applicator shall be used.

4.5.3.2.2 Test procedure. Spray solution over surface of dried wood. A deep blue color reveals the presence of copper (from the copper-8-quinolinolate).

4.5.4 Presence of M-GARD W550 (zinc naphthenate emulsifiable) preservative.

4.5.4.1 Primary method.

4.5.4.1.1 Materials and equipment. The materials and equipment required are as follows:

a. Reagent. Dissolve 0.1 grams of dithizone (diphenylthiocarbazone) (see 6.13) in 100 ml of chloroform (Note: Solutions should be made up daily).

b. Sprayer. A common manual (fly) sprayer type applicator should be used.

4.5.4.1.2 Test procedure. Spray solution evenly over dried wood. The indicator will turn pink when zinc (M-GARD W550) is present. The pink color fades with light.

4.5.4.2 Alternate method.

4.5.4.2.1 Materials and equipment. The materials and equipment required are as follows:

a. Reagents (Stock solutions).

(1) 1 gram of potassium ferricyanide dissolved in 100 ml of distilled water.

(2) 1 gram of potassium iodide dissolved in 100 ml of distilled water.

(3) Starch indicator solution. Makes a paste of 1 gram of soluble starch in about 5 ml of distilled water, add 100 ml of distilled water and boil for 1 minute with constant stirring. Cool. Note: This solution is subject to biodegradation and therefore should not be used longer than 3 days before a new batch is prepared.

b. Sprayer: A DeVilbiss No. 30 atomizer or equivalent.

## MIL-B-46506D

4.5.4.2.2 Test procedure. Mix 10 ml each of the three stock solutions and pour into the atomizer (sprayer). Spray mixture evenly over surface of dried wood. The solution will cause the treated wood to turn a deep blue instantly while the untreated part will retain its original color.

4.5.5 Rope weight. In order to measure the length of polyethylene or polypropylene rope for the purpose of determining the rope weight per foot, the sample of rope submitted shall be stretched with a load equal to 200 pounds multiplied by the diameter (inches squared). While the rope is under load, a 30 foot length shall be marked off, cut out and accurately weighed. The weight, in pounds per foot, shall be computed using the length measurement determined under load.

4.5.6 Rope breaking strength. The breaking strength of the five samples of polyethylene or polypropylene rope submitted shall be determine in accordance with ASTM-D4268. The average breaking strength shall be computed.

## 5. PACKAGING

5.1 Packaging requirements. None required.

5.2 Packing - Level C. Unless otherwise specified in the contract or order, wirebound boxes shall be shipped knocked down and shall be securely bound with two round steel straps in bundles of ten. The diameter of the round steel straps shall be not less than 14 gauge. (.080). The number of units per bundle shall be decreased if necessary so that no bundle exceeds 150 pounds. When the length of a bundle exceeds 42 inches, an additional strap shall be added. Ends or loose pieces shall be secured separately with two round 14 gauge straps.

5.3 Marking. The marking for shipment shall be in accordance with MIL-STD-129 or as directed by the contract or order.

## 6. NOTES

6.1 Intended use. Wood, wirebound, ammunition packing boxes covered by this specification are intended for shipment of ammunition, components, bombs, accessories, rockets, grenades, pyrotechnics, mines, jatos, guided missiles, demolition materials, special weapons components, and cartridge activated devices.

6.1.1 Grade A boxes are intended primarily for field service storage or issue of service ammunition and storage or shipment of practice or non-issue ammunition to an unknown destination.

6.1.2 Grade B boxes are intended primarily for interplant shipment and storage of ammunition or components.

## MIL-B-46506D

6.2 Ordering data. Procurement documents shall specify the following:

6.2.1 Procurement requirements:

- a. Title, number and date of this specification.
- b. Type, class and grade of box according to the title and number specified in this specification and applicable drawing.
- c. Inside dimension in inches to the nearest 1/16 inch in order of length, by width, by depth.
- d. Net weight of intended contents unless referenced on applicable drawing.
- e. Provisions for submission of first article samples.

6.2.2 Contract data requirements. Contract data requirements for inspection equipment designs (conforming to Data Item Description DI-R-1714 tailored). (See 6.9).

6.3 Definitions.

6.3.1 Decay. Decay is disintegration of wood due to action of fungi. In the shop, decay can be best detected and differentiated from harmless stains and discoloration by use of the pick test. The pick test is performed with a knife or chisel by lifting some of the grain fibers in suspicious-looking areas. If the material is punky or more brash (breaks without splintering) than healthy wood of the same species, it is probably decayed. Suspicious areas are usually abnormally brown, bleached looking or mottled and indicated by the absence of luster that is present in normal wood.

6.3.2 Wane. Wane is bark or de-barked areas which may appear at the edge of the board.

6.4 Repair loops. Wire loops may be repaired as shown in figure 10 and 10A if they are broken in service.

6.5 Assembly and closure. Maximum performance will not be obtained from boxes made in accordance with this specification unless they are correctly assembled and closed. The correct methods are illustrated in figures 8 and 9. If other tools than the Sallee Closer are used, it should be determined that the closure obtained is similar in all respects, i.e., tightness of wire, foldover of loops, radius of bends of the wire.

6.6 Other fastenings. One type of fastener that has been found satisfactory is formed by a machine from a roll of knurled wire. The machine cuts the wire to the desired length, drives it through the pieces to be fastened, and makes a clinch and small head. In most instances, it will be found necessary to use 1-1/2 times as many of these fasteners as nails to be equivalent to the requirements of 3.9.1.

MIL-B-46506D

6.7 PQ-56, for the 1.8 percent copper-8-quinolinolate solution, may be obtained from the Chapman Chemical Company, P.O. Box 9158, Memphis, TN 38019 or equivalent facility.

6.8 M-GARD W550, (zinc hydronap) for the 3 percent zinc as metal solution, may be obtained from the Mooney Chemicals Inc., 2301 Scranton Road, Cleveland, Ohio 44113-9988 or equivalent facility.

6.9 Inspection equipment design. Design responsibility for inspection equipment is assigned to the contractor.

6.9.1 Contractor designs. Contractor designs are required for inspection equipment and may include commercial equipment which the contractor proposes to use. (Commercial equipment is defined as unmodified equipment which is cataloged and available for purchase by the general public). Contractor designs shall include appropriate operating instructions, calibration procedures and maintenance procedures. Commercial equipment shall be fully described by catalog listings or other means which provide sufficient information to permit identification and evaluation by the Government and may include illustrations and engineering data. Designs shall be prepared for any special fixture(s) required to be used with commercial equipment. Designs shall be of the category and form (per MIL-D-1000) specified in the Contract Data Requirements Lists (DD Form 1423). The time detail specification number, paragraph number, and defect number from Section 4 shall be referenced on each contractor design together with the component or assembly drawing number, revision letter and date to which the specific design applies.

6.9.2 Submission of designs for approval. Contractor designs shall be approved by the Government prior to fabricating or procuring the equipment. Designs shall be submitted for approval in accordance with the stipulations, time frame and distribution specified in the Contract Data Requirements Lists (DD Form 1423) or in the contract. Partial submission of inspection equipment designs is permissible and encouraged. However, the completion data for design review will be based on the date of the final submission of designs and the required delivery schedule as stipulated in the contract. The specific segment of the U.S. Army Armament Research and Development Center (ARDC) to which the Contractor designs shall be sent will be specified in the item detail specification. When the contractor submits inspection equipment designs to the Government for approval he shall give the following information in his letter of transmittal:

- a. The contract number.
- b. The contract item (name, model number, etc.)

MIL-B-46506D

c. The designs remaining to be submitted and the expected date of submittal.

Submit equipment designs, as required, to Commander, U.S. Army Armament Research and Development Center (ARDC) ATTN: AMSMC-QAR-I(D), Dover, New Jersey 07801-5001.

6.10 Prior approval of the Contracting Officer is required for use of equivalent test methods. A description of the proposed method should be submitted through the Contracting Officer to: Commander, U.S. Army Armament Research and Development Center (ARDC) ATTN: AMSMC-QAR-Q(D), Dover, New Jersey 07801-5001. This description should include but not be limited to the accuracy and precision of the method, test data demonstrating the accuracy and precision and drawings of any special equipment required.

6.11 Sodium diethyldithiocarbamate trihydrate may be obtained from J.T. Baker Chemical Co., Phillipsburg, New Jersey 08865 or equivalent facility.

6.12 Chrome azurol "S" may be obtained from Eastman Chemical Co., Rochester, New York or equivalent facility.

6.13 Dithizone (diphenylthiocarbazone) may be obtained from Matheson, Coleman and Bell Co., Cincinnati, Ohio or equivalent facility.

6.14 Changes from previous issue. Asterisks are not used in this revision to identify changes with respect to the previous issue due to the extensiveness of the changes.

Custodian:  
Army-AR

Preparing Activity:  
Army-AR

(Project 8140-0644)

Reviewing Activity:  
Army-AR  
Navy-OS

MIL-B-46506D

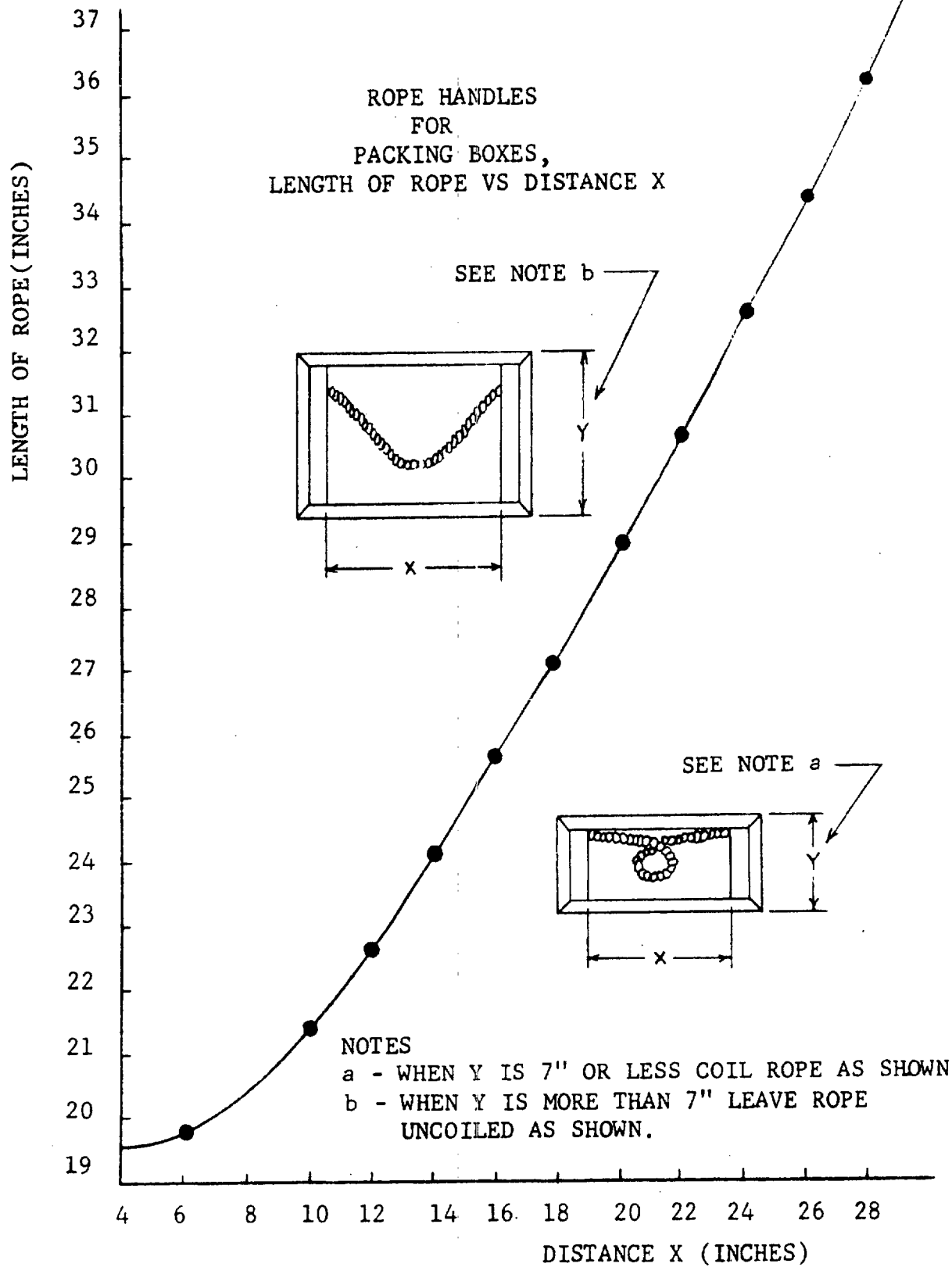


FIGURE 1A.

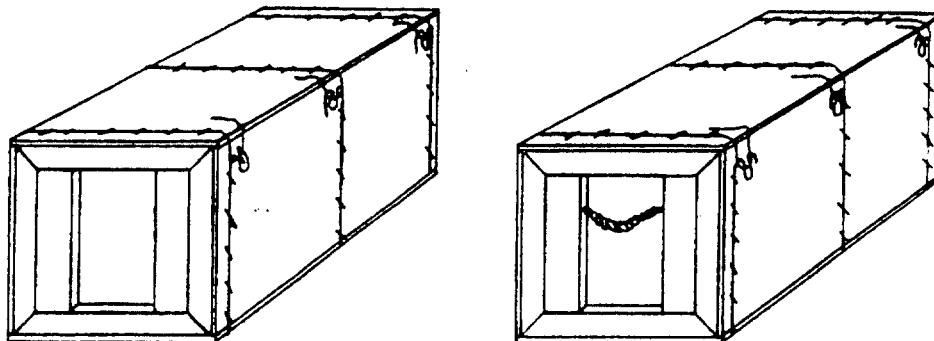
## MIL-B-46506D

## TYPE I BOX

## TYPE II BOX

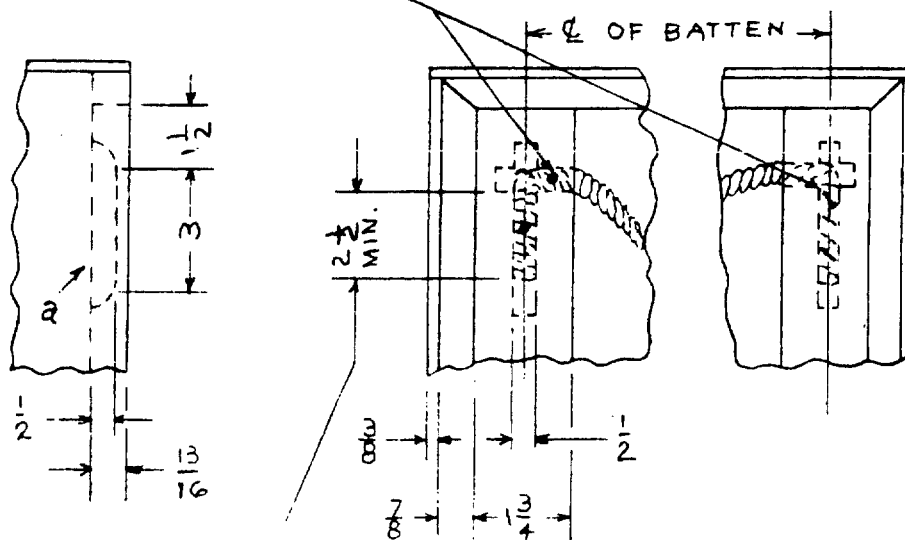
(Without rope handles)

(With rope handles)



All boxes shall have top and bottom overlap (See 3.7.1) and Fig. 2

Two nails or two staples of size holding end boards to battens shall pass through center of rope as shown (See 3.9.3).



Rope shall extend to this dimension

## NOTES:

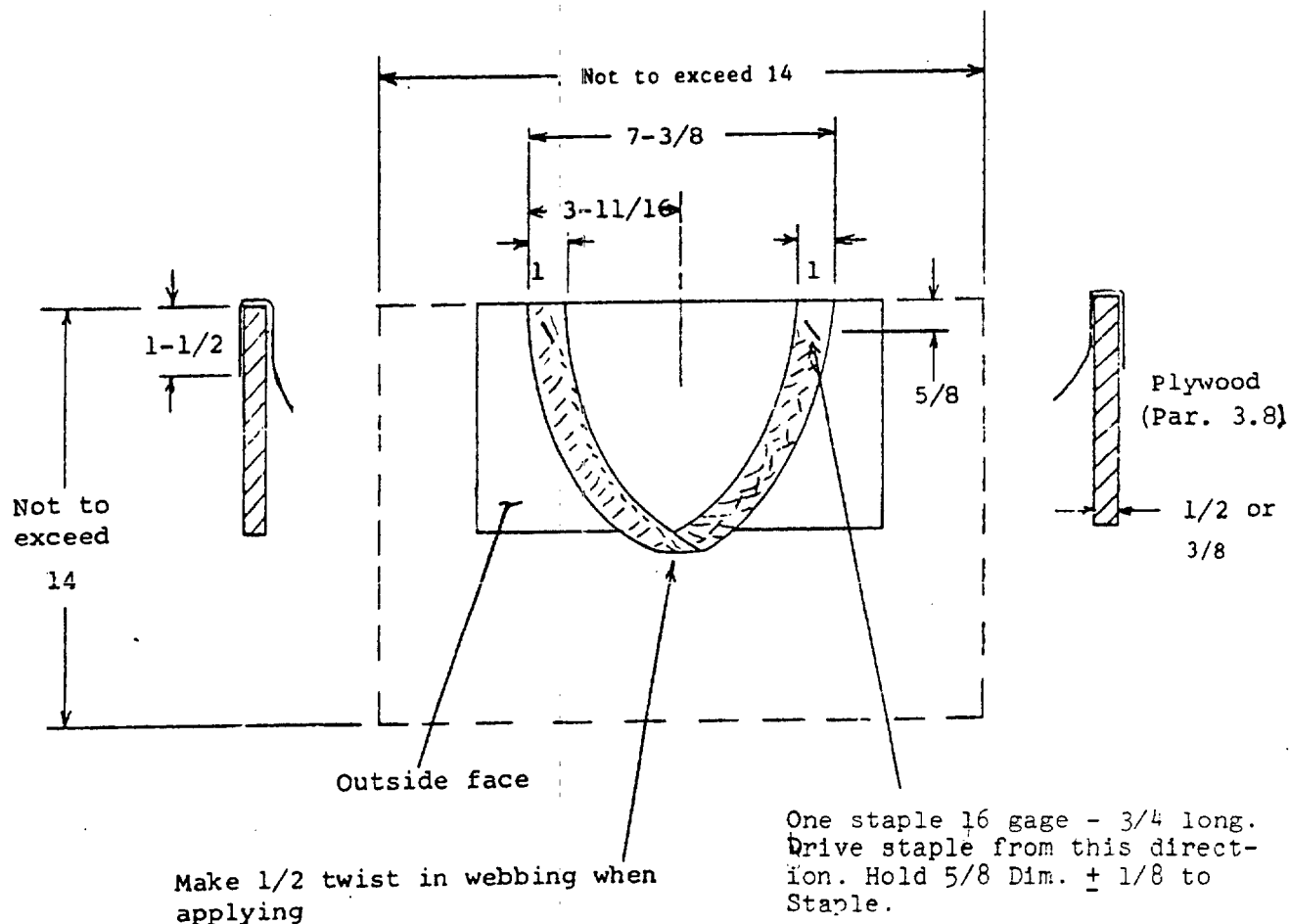
- Routing dimensions shall be 1/2" when 1/2" & 7/16" diameter rope is specified and 5/8" diameter when 5/8" diameter rope is required.
- Cleat width, 13/16" or 1-1/8", as specified by class of box.
- See Par. 3.3.2 for staple spacing of blank. On ends first nail or staple shall be 3/4 to 1 inch from end of batten. (See Fig. 2).

## TYPES OF WIREBOUND BOXES



## MIL-B-46506D

Ends for Type II Box (with webbing handles).

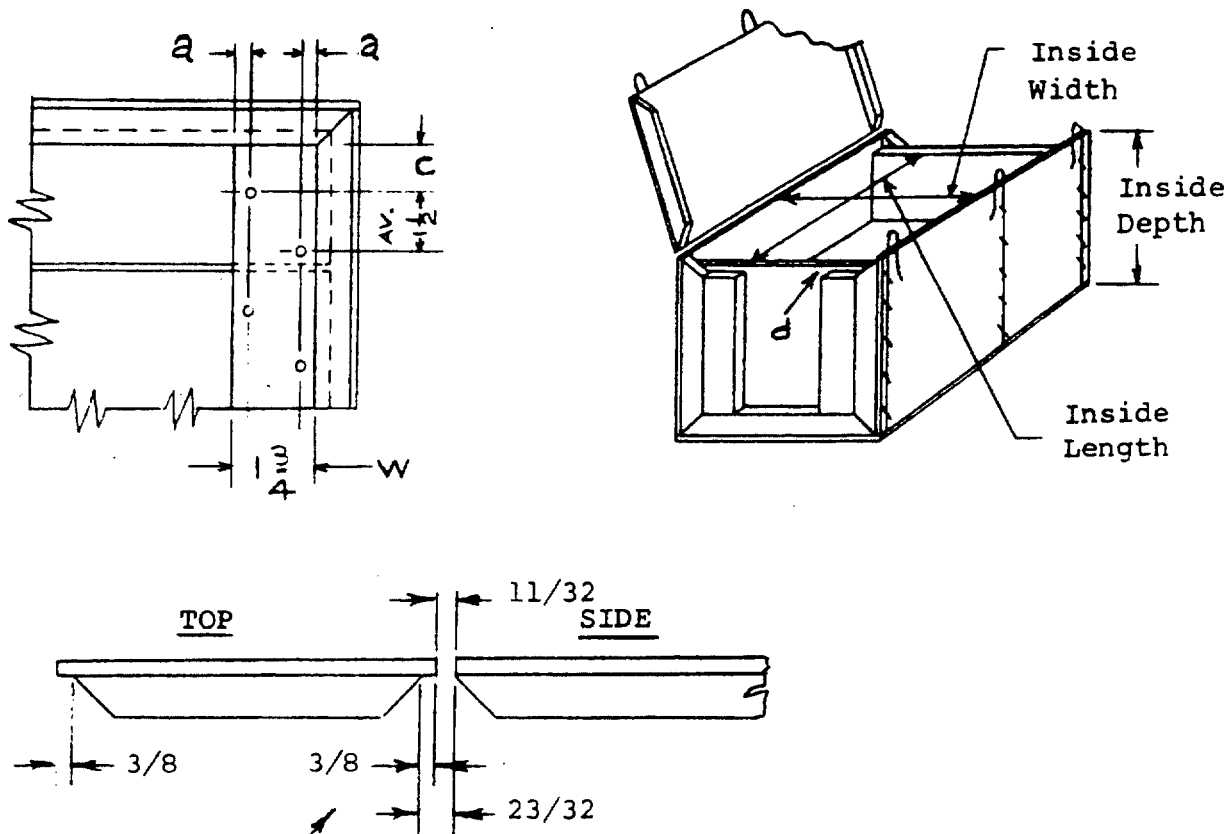


Webbing: 19" Long - Spec. MIL-W-17337 (Par. 3.5 6)

Fig. 1-B

MIL-B-46506D

SEE NOTE b



Advisory Dimensions for Top and Bottom Overlap on Boxes. (Par. 3.7.1)

To determine outside dimensions:

- To inside length add twice the thickness of cleats and twice thickness of end boards.
- To inside width add  $1-1/8"$  (includes closure on side of box).
- To inside depth add 1 inch.

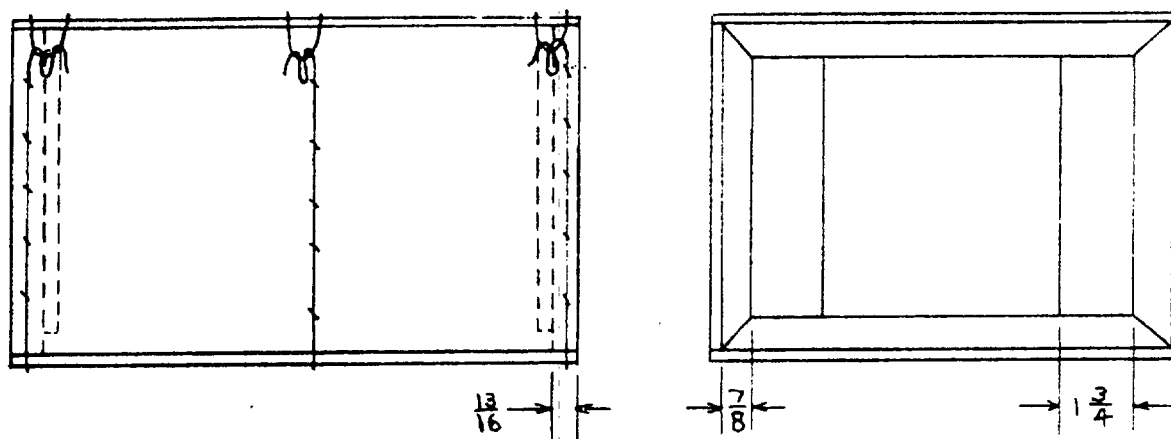
#### NOTES:

- a.  $1/2"$  when  $w$  equals  $1-3/4"$ , for greater widths  $b$  equals  $5/8"$
- b. Nailing pattern shown for securing end boards to battens may be modified by locating top nail in opposite row provided nails are alternated as shown. Bottom nail may be located in inner or outer row as required.
- c.  $3/4"$  to  $1"$ .
- d. End boards project beyond edge of battens  $7/8"$  (See 3.8. ) and beyond ends of battens  $3/8 \pm 1/16$

WIREBOUND BOX WITH END BATTENS

FIGURE 2

MIL-B-46506D



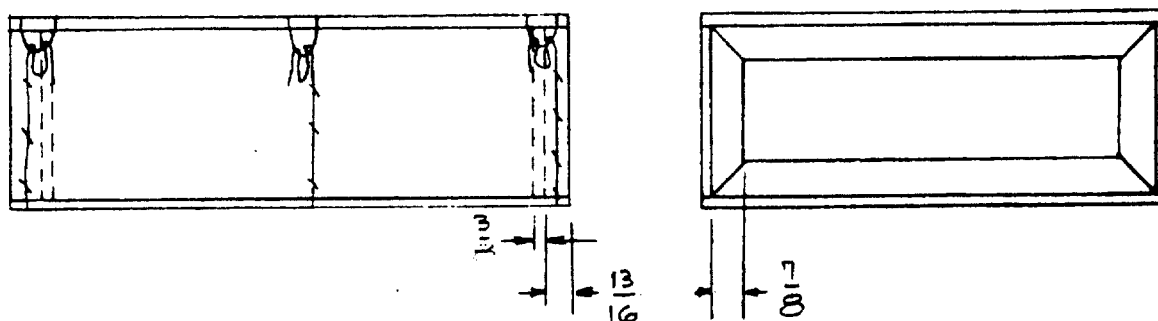
## NOTES:

- a. See Figures 1 and 2 for construction of box.
- b. Unless otherwise specified all faceboards shall be  $\frac{3}{8}$ " thick, all cleats shall be  $\frac{13}{16}$ " x  $\frac{7}{8}$ ", and all battens on ends shall be  $1\frac{3}{4}$ " x  $\frac{13}{16}$ ". (See Par. 3.7.1)

TYPE I CLASS 1 BOX

FIGURE 3

MIL-B-46506D



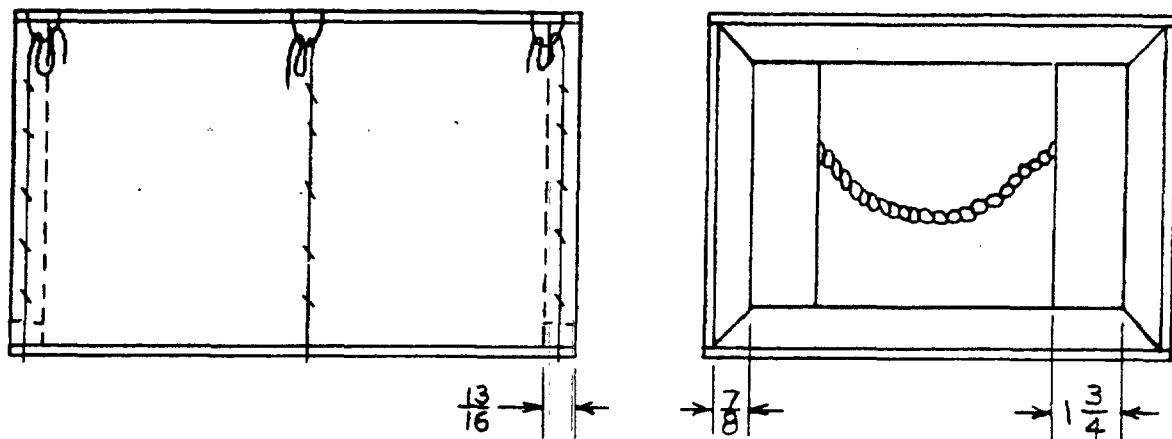
## NOTES:

- a. See Figures 1 and 2 for construction of box.
- b. Unless otherwise specified all faceboards shall be 3/8" thick, all cleats shall be 13/16" x 7/8". Ends shall be one piece 3/8" thick plywood.

TYPE I CLASS 2 BOX

FIGURE 4

MIL-B-46506D



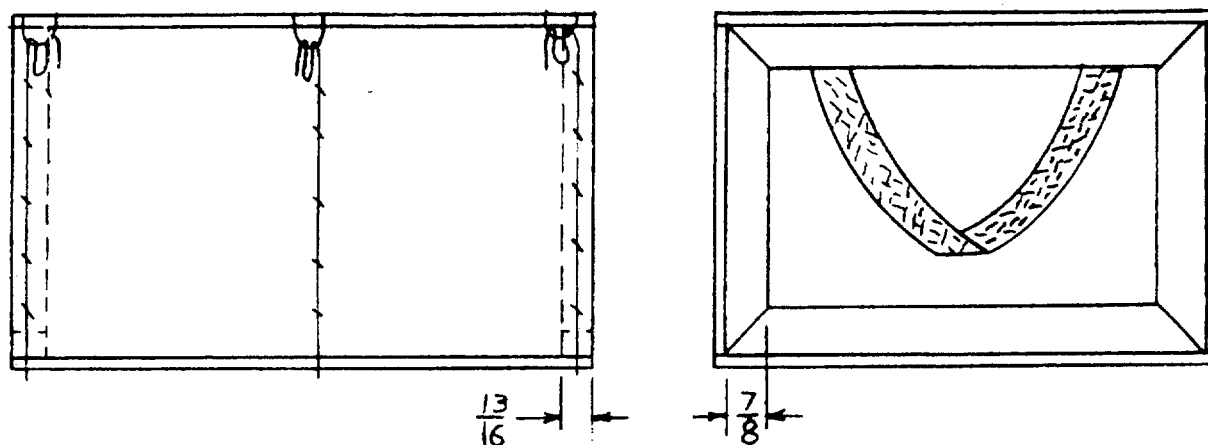
## NOTES:

- a. See Figures 1 and 2 for construction of box.
- b. Unless otherwise specified all faceboards shall be  $\frac{3}{8}$ " thick, all cleats shall be  $\frac{13}{16}$ " x  $\frac{7}{8}$ " and all battens on ends shall be  $1\frac{3}{4}$ " x  $\frac{13}{16}$ ".
- c. See Par. 3.5.1 for rope handle requirements. See Figure 1A for length of rope.

TYPE II CLASS 1 BOX

FIGURE 5

MIL-B-46506D



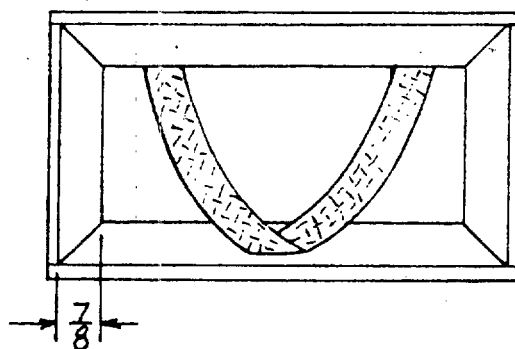
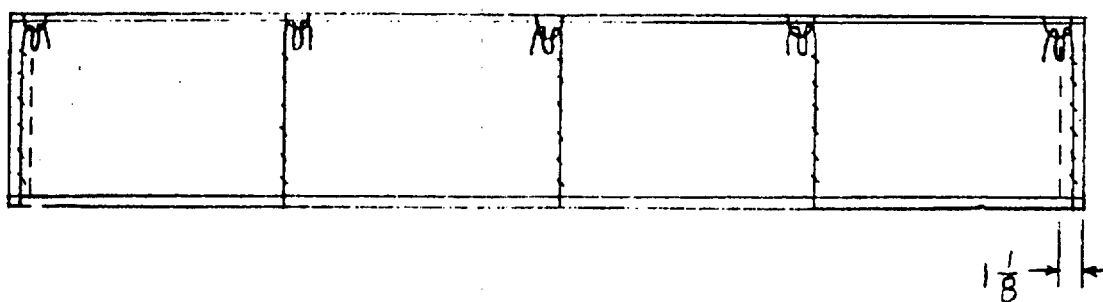
## NOTES:

- a. See Figures 1 and 2 for construction of box.
- b. Unless otherwise specified all faceboards shall be  $\frac{3}{8}$ " thick and all cleats shall be  $\frac{13}{16}$ " x  $\frac{7}{8}$ ". Ends shall be  $\frac{3}{8}$ " thick plywood.
- c. See Fig. 1-B for webbing handle requirements.

TYPE II CLASS 2 BOX

FIGURE 6

MIL-B-46506D



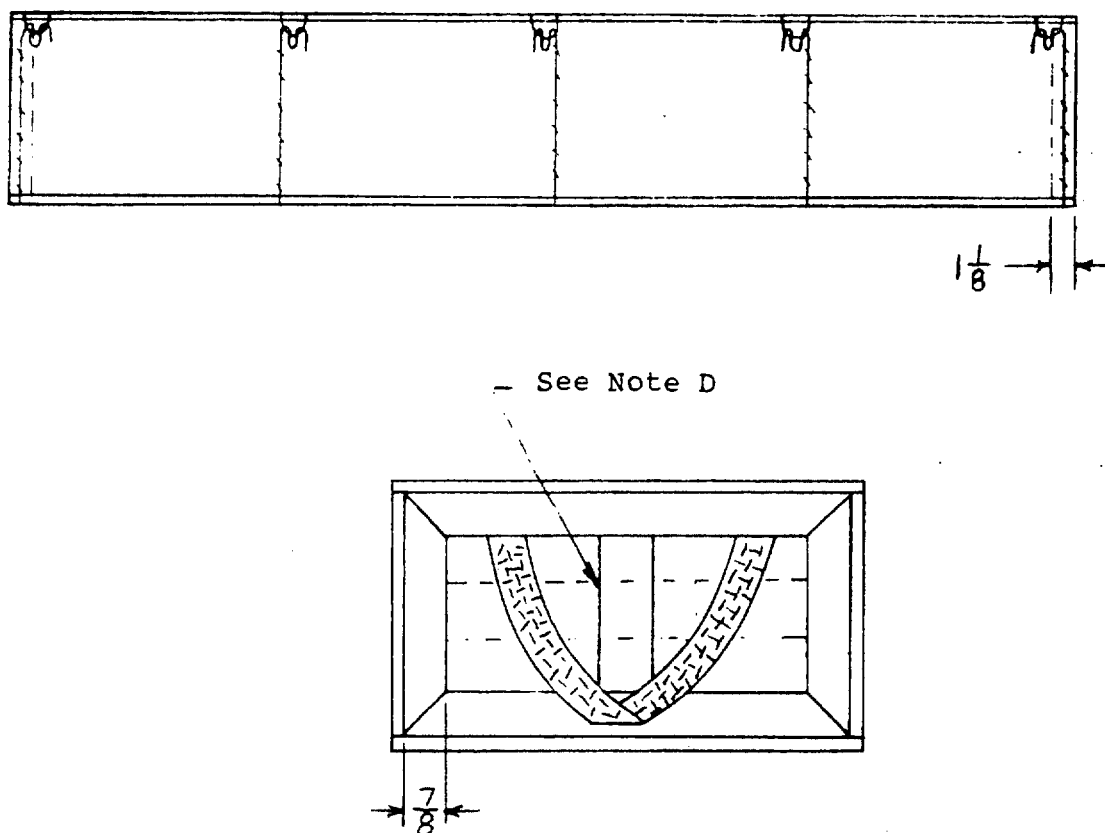
## NOTES:

- a. See Figures 1 and 2 for construction of box.
- b. Unless otherwise specified all faceboards shall be  $\frac{3}{8}$ " thick, and all cleats shall be  $1\frac{1}{8}$ " x  $\frac{7}{8}$ ". Ends shall be  $\frac{1}{2}$ " thick plywood.
- c. See Fig. 1-B for webbing handle requirements.

TYPE II CLASS 3 BOX

FIGURE 7

MIL-B-46506D



## NOTES:

- a. See Figures 1 and 2 for construction of box.
- b. Unless otherwise specified all faceboards shall be  $\frac{3}{8}$ " thick, all cleats shall be  $1\text{-}1\frac{1}{8}$ " x  $\frac{7}{8}$ ", and all battens on ends shall be  $1\text{-}\frac{3}{8}$ " x  $1\text{-}1\frac{1}{8}$ ". All ends shall be  $\frac{1}{2}$ " thick plywood.
- c. See Fig. 1-B for webbing handle requirements.
- d. Vertical batten at centerline of end will be supplied unless horizontal batten at centerline is specified.

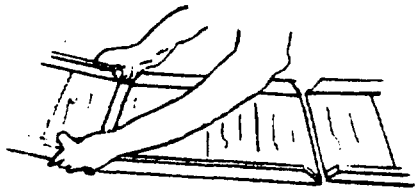
TYPE II CLASS 4 BOX

FIGURE 8

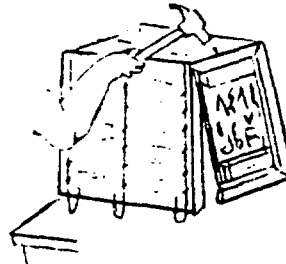


MIL-B-46506D  
MANUAL BOX ASSEMBLY

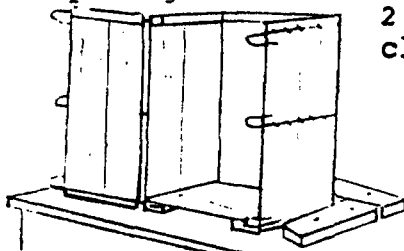
Forming of the box for loading may be accomplished by any one of the three methods shown below.



Lift side slightly before folding.  
Fold box by raising sides at right angles to bottom.



METHOD 1 Drive 7d nails through side cleats to adjacent battens. Alternately 2 inch long 14° mechanically driven staples driven astride the binding wires may be used. The average spacing of nails or staples shall be 5" with a minimum of 2 nails or staples through each side cleat for any depth of box.



METHOD 2 The end boards shall be fastened to each side cleat by either nails or staples. Nails shall be not less than .076" diameter (14 1/2) Ga. Staples shall be not less than .0625" diameter (16°).

For manual assembly, nails shall be driven at an average spacing of 2". Staples shall be driven at an average spacing of 2 1/2". There shall be a minimum of 2 fastenings through the end into each side cleat for any depth box.

The length of each fastening shall not be less than the thickness of the end board, plus three quarters the thickness of the cleats. The points of the fastening shall not protrude from the cleats. 3d nails or 1" long staples satisfy this requirement.

METHOD 3 No nails or fasteners are required to attach ends to sides of box.

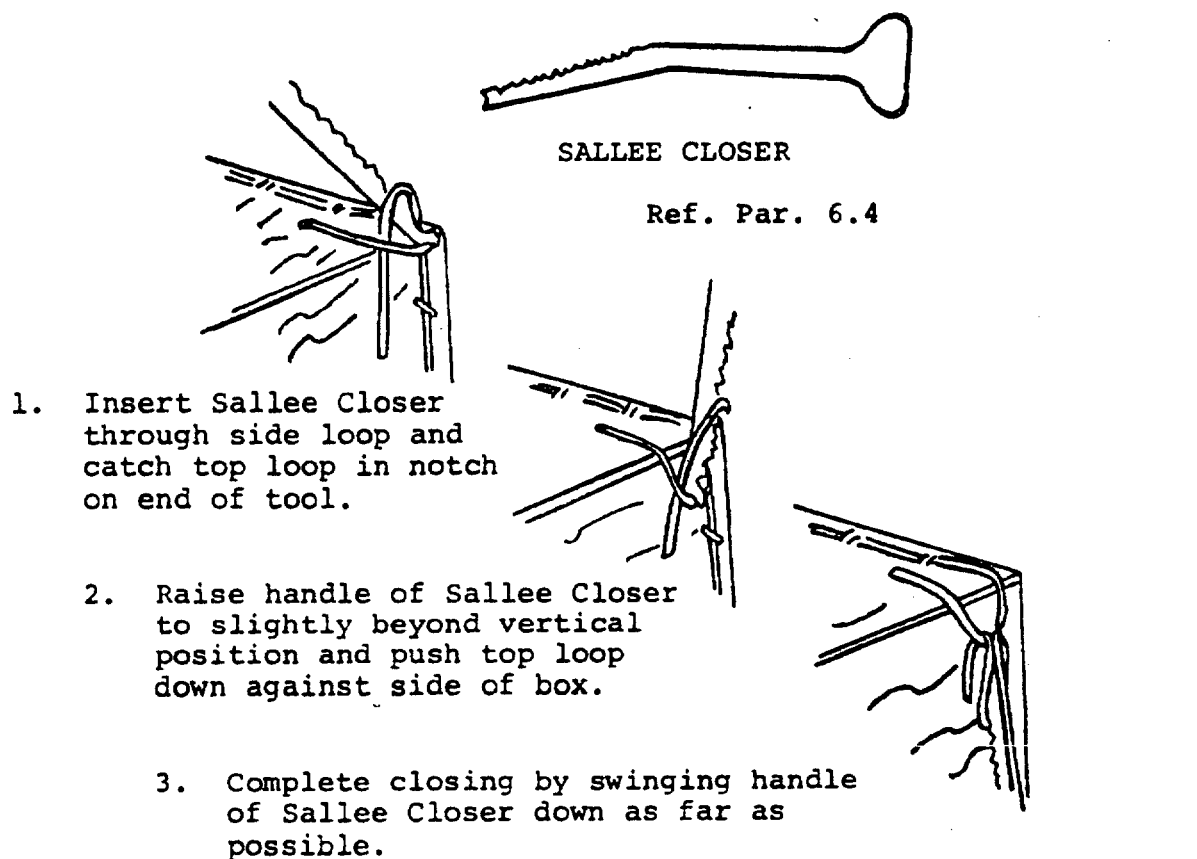
AUTOMATIC BOX ASSEMBLY

"For automatic box assembly-For boxes 14 inches and under in depth, one fastening (nail or staple) shall be driven through the end into each side cleat. Location of fastening is to be approximately halfway between the top and bottom edges of the end board and at approximate center of cleat. Boxes over 14 inches in depth, two fastenings shall be driven through the end into each side cleat. Location of the fastenings is to be approximately equally spaced between the top and bottom edges of the end board and at approximate center of cleat".

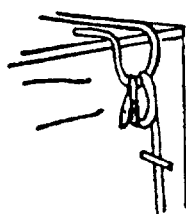
FIGURE 8A

MIL-B-46506D

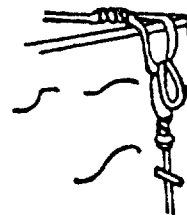
# METHOD OF CLOSING LOOPS



Sallee Closers are obtainable from any Wirebound Box supplier.



Looped Wire Closure



Twisted Loop Closure

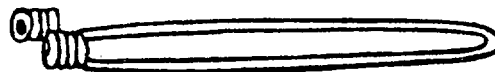
FIGURE 9

MIL-B-46506D

## REPAIRING LOOP CLOSURES

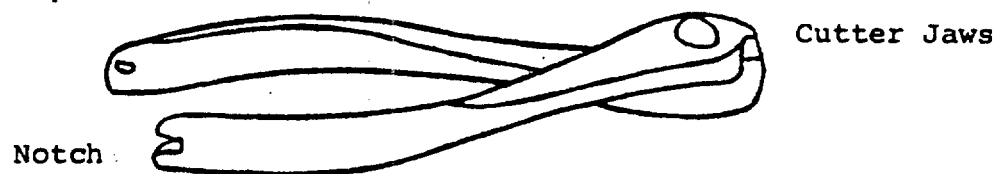
To replace a broken loop requires:

1. Repair Loop, 13 gauge



Overall Length 2-7/8"

2. Wire cutter notched as shown to bend wires



Overall Length 5-5/16"

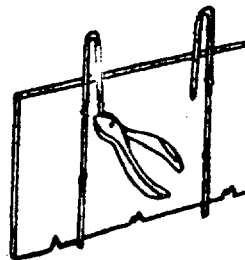
Note: Both items are available from Wirebound box manufacturers.

FIGURE 10

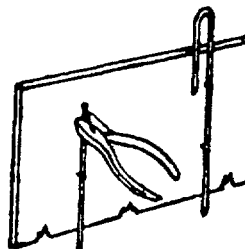
MIL-B-46506D

## LOOP CLOSURE REPAIR PROCEDURE

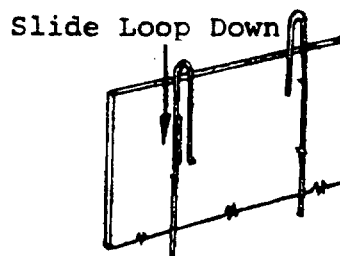
1. Remove broken loop by cutting wire.



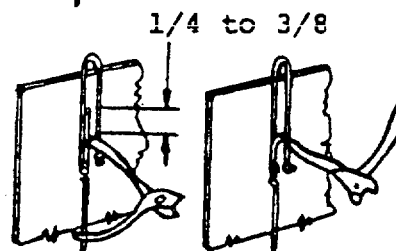
2. Cut first staple and release wire.



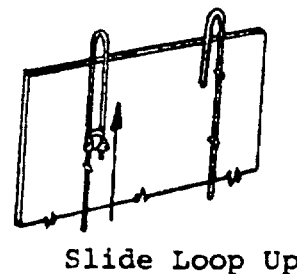
3. Slide one end of repair loop onto binding wire.



4. Place notch of cutter 1/4" to 3/8" from end of wire - and bend the wire into a half circle.



5. Insert bent end of wire into repair loop coil and slide loop up.



6. Lock the repair loop in place by giving the end of the wire a further bend.

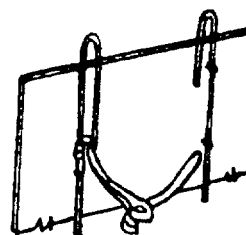


FIGURE 10A

## STANDARDIZATION DOCUMENT IMPROVEMENT PROPOSAL

(See Instructions - Reverse Side)

1. DOCUMENT NUMBER MIL-B-46506D		2. DOCUMENT TITLE BOXES, AMMUNITION PACKING WOOD, WIREBOUND	
3a. NAME OF SUBMITTING ORGANIZATION		4. TYPE OF ORGANIZATION (Mark one) <input type="checkbox"/> VENDOR <input type="checkbox"/> USER <input type="checkbox"/> MANUFACTURER <input type="checkbox"/> OTHER (Specify): _____	
b. ADDRESS (Street, City, State, ZIP Code)			
5. PROBLEM AREAS			
a. Paragraph Number and Wording:			
b. Recommended Wording:			
c. Reason/Rationale for Recommendation:			
6. REMARKS			
7a. NAME OF SUBMITTER (Last, First, MI) - Optional		b. WORK TELEPHONE NUMBER (Include Area Code) - Optional	
c. MAILING ADDRESS (Street, City, State, ZIP Code) - Optional		8. DATE OF SUBMISSION (YYMMDD)	